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9 February 1978

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TRANSLATIONS ON TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 28

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CONTENTS

PAGE

WORLDWIDE AFFAIRS

Norwegian Union Complains to USSR About Signal Disturbance (Editorial; AFTENPOSTEN, 15 Dec 77)	1
Kiev Station Interference Drops After West European Boycott Threat (AFTENPOSTEN, 31 Dec 77)	3

Briefs

International Communications Meeting	4
Regional Telecommunications Conference	4
UN on Mideast Telecommunications	4
USSR-Uganda TV-Radio Pact	5
CSSR-PDRY Radio Agreement	5
India, GDR Agreement	5
Japan-Iraq Pact	5

ASIA

INTER-ASIAN AFFAIRS

Thai Communications Minister Invited To Visit Vietnam (BANGKOK POST, 12 Jan 78)	6
Indonesia Offers Free Use of Palapa Satellite to ASEAN (ANTARA, 16 Jan 78)	7

AUSTRALIA

Defense Electronics Has Hopes for Projects (THE AUSTRALIAN, 12 Dec 77)	8
---	---

CONTENTS (Continued)

	Page
INDIA	
Briefs	
Communications Satellite	10
INDONESIA	
Briefs	
Maluku Meteorological Radar	11
MONGOLIA	
Foundation of First Radio Relay Station Laid Near Ulaanbaatar (MONTSAME, 17 Jan 78)	12
Briefs	
Radio Relay Line	13
THAILAND	
Briefs	
New Transmitter in Saraburi	14
EASTERN EUROPE	
CZECHOSLOVAKIA	
Briefs	
Expanded Slovak TV Program	15
HUNGARY	
Briefs	
New Television Relay Stations	16
LATIN AMERICA	
BRAZIL	
Domestic Satellite To Be Given Priority (O GLOBO, 22 Dec 77)	17
RADIOBRAS To Incorporate MEC, TVE as of 1 January 1978 (JORNAL DO BRASIL, 19 Dec 77)	19
RADIOBRAS Broadcasts Designed To Block Out Radio Havana, Others (FOLHA DE SAO PAULO, 10 Jan 78)	21

CONTENTS (Continued)		Page
Minicomputers To Be Produced With Fujitsu Technology, Equipment (O GLOBO, 21 Dec 77)	22	
Briefs		
Communications Satellite Purchase Considered	24	
RADIOBRAS Anticipates Exporting Transmitters	24	
New CPA Lines in Sao Paulo	25	
PERU		
Telephone Service To Undergo Costly Expansion (Various sources, various dates)	26	
Plan To Add Lines Approved 100,000 Soles To Install Telephone Line		
TV To Reach Villages in Huaylas Province (LA PRENSA, 23 Nov 77)	28	
NEAR EAST AND NORTH AFRICA		
INTER-ARAB AFFAIRS		
Briefs		
Iran-UAE News Pact	29	
EGYPT		
Briefs		
Communications Network Planned	30	
IRAN		
'PARS' Long-Distance Transmitters Go Into Operation (PARS, 4 Jan 78)	31	
IRAQ		
Briefs		
Al-Sulaymaniyah Microwave Project	32	
SAUDI ARABIA		
Government Selects Swedish Phone System (Lars Ramklint; DAGENS NYHETER, 15 Dec 77)	33	

CONTENTS (Continued)

	Page
SUDAN	
Briefs	
Numayri Inaugurates Telecommunications Stations	37
Microwave, Satellite Stations	37
Telecommunications, Posts Corporations	37
UNITED ARAB EMIRATES	
Briefs	
Merge Radio Stations	38
SUB-SAHARAN AFRICA	
INTER-AFRICAN AFFAIRS	
Briefs	
Pan-African Telecommunications Union	39
Angola Communications With Congo	39
ANGOLA	
Telecommunications Established With USSR, Europe, Brazil (JORNAL DE ANGOLA, 1 Dec 77)	40
GHANA	
Briefs	
Ghanaian Satellite Communications	41
MADAGASCAR	
Briefs	
Radio Netherlands Cooperation	42
NIGER	
Algerian Aid Praised by Minister (LE SAHEL, 19 Dec 77)	43
NIGERIA	
FMG Control of Radio Station To Be Assumed on 1 April (NEW NIGERIAN, 10 Dec 77)	46
SOUTH AFRICA	
Ficksburg TV Transposer To Be Replaced (THE STAR, 13 Jan 78)	48

CONTENTS (Continued)

	Page
Radio RSA To Operate 500-Kilowatt Transmitters (Pretoria Department of Information, 11 Jan 78)	49
Committee Seeks To Broaden Computer Application (THE STAR, 9 Jan 78)	50
UGANDA	
Briefs	
Satellite Plans	51
USSR	
Uzbek Official Outlines Plan for Tashkent's New Television Tower (Tashkent Domestic Service, 16 Dec 77)	52
New Uzbek Radio Announced (Editorial Report)	54
Ekran Television Broadcast System (L. Borodin; ZNAMENOSETS, No 12, 1977)	55
Briefs	
Tygda-Skoverodino Radio Relay Line	60
Checheno-Ingushetia TV	60
Azerbaydzhan TV Relay Station	60
Reception in Pskovskaya Oblast	60
TV Relay Station	60
Primorskiy Kray TV	61
WESTERN EUROPE	
NORWAY	
Kiev Transmitter Again Angers Communications Workers (AFTENPOSTEN, 8 Dec 77)	62
Briefs	
Government Protest Note	63

NORWEGIAN UNION COMPLAINS TO USSR ABOUT SIGNAL DISTURBANCE

Oslo AFTENPOSTEN in Norwegian 15 Dec 77 p 2

[Editorial]

[Text] A new Norwegian inquiry has been made in Moscow concerning the radio static transmitter in Kiev. Again it was the national union in Norway [LO] which has taken the matter up with the Soviet LO. Up to now, the Norwegian LO, the telegraph company and the UD [Foreign Office] have made 10 efforts to get the Soviet authorities to act against the pirate transmitter, but all has been in vain. Those responsible in Moscow and Kiev do not answer, and the disturbances in the international telecommunications network continue as before. Here we see Soviet activity which no longer simply irritates. It also has a provocative effect in the many connections which are hit by the disturbances from Kiev.

In the LO inquiry, it is stated that the Kiev transmitter endangers the lives of those who work at sea and in the air. It is a highly perilous situation. It also contains a complaint. The Kiev transmitter has not caused such tragic damage as LO Chairman Tor Halvorsen and LO's international secretary Kaare Sandegren have mentioned the possibility of. But it can happen. This uncertainty and danger will stop completely if the Kiev transmitter stops. The people in Moscow who have the power and authority to take care of this would thereby show a sense of responsibility and respect for human life that people have waited so long for.

The disturbances from Kiev in international radio communications have gone on since summer. In modern times, since the ether [sic] is a much used thoroughfare, traffic must proceed normally. The Kiev transmitter does not consider the interests of others and threatens to destroy vital connections at sea and in the air. It makes radio contact with ships and planes difficult in a way that is in conflict with international regulations which the Soviet Union has agreed to follow.

In Norway it is the Rogaland radio which has noticed the Kiev transmitter, but there is also difficulty in the rest of West Europe. It is therefore understandable that combined action is being considered to get rid of the Soviet static. Most dramatic is a plan to get the 10 largest coastal radio stations in West Europe to boycott Soviet ships. The thought of such a drastic action is a clear expression of the concern of these stations for what could happen if the static from Kiev is not stopped. Reactions from Rogaland radio and other stations indicate that the workers have literally gotten tired and are ready to take counter measures which they hope will get the Soviet authorities to react more positively than they have done up to now in reaction to the written and oral inquiries.

A boycott of Soviet ships must be the last resort to silence the Kiev transmitter. There are so many questions on the legality and the consequences of such a combined action that it must be considered thoroughly and carefully. But there is no reason to doubt that those taking the initiative will show the necessary calm and carefulness. It is to be hoped that the authorities in Moscow will notice the boycott plan as the warning it is meant to be. They have the responsibility for preventing an "outbreak of war" on international short wave bands.

9124

CSO: 5500

WORLDWIDE AFFAIRS

KIEV STATION INTERFERENCE DROPS AFTER WEST EUROPEAN BOYCOTT THREAT

Oslo AFTENPOSTEN in Norwegian 31 Dec 77 p 14

[Text] The Kiev transmitter has taken a "Christmas holiday." The transmitter has hardly been used since the boycott threat from a series of West European coastal radio stations was made known about two weeks ago. The stations threatened to boycott radio communication with all Russian ships if the transmitter did not stop.

"There has been a noticeable improvement in recent weeks. We do not know whether this is the result of the boycott threat, but the transmitter has been quite silent at any rate so that we could take care of the Christmas traffic quite well," Arne Petter Nilsen, chief representative of Rogaland Radio, told AFTENPOSTEN.

The European radio stations have no plans at present to withdraw the boycott threat. The leader of the boycott action, W. Hellriegel, chief representative of Norddeich Radio in West Germany, told AFTENPOSTEN that he now had received an answer to the boycott letter from three of ten stations which are now considering the boycott. "In addition to the answer from the Rogaland radio, we now have also received a positive answer to a possible boycott from Porthishead Radio in England. Here all 220 agents are for the boycott if it becomes necessary. The English radio broadcasters have already taken the matter up with their union. Broadcasters at Lyngby Radio in Denmark are divided into two unions, and for this reason they have not given a definite answer yet on whether they will take part in a possible boycott," Hellriegel said.

Hellriegel will contact the chief representatives of the European radio stations when he has received all the letters. If the majority agree on the boycott, a stand will be taken on how it is to be carried out. According to AFTENPOSTEN's understanding, it is possible that there will first be a warning of the boycott at the Soviet embassies in individual countries, and if this is not effective, then the actual radio boycott will be put into effect. The possible length of the boycott will be discussed later.

9124

CSO: 5500

WORLDWIDE AFFAIRS

BRIEFS

INTERNATIONAL COMMUNICATIONS MEETING--Sofia, 12 Jan (BTA)--The meeting of the member-states of the fifth subregion of "The Mediterranean-East" Telecommunication Project ended here. The meeting was attended by experts from Bulgaria, Greece, Turkey, Malta, Cyprus, Iraq, Yugoslavia and as observers specialists from Italy and France. [Sofia BTA in English 1340 GMT 13 Jan 78 AU]

REGIONAL TELECOMMUNICATIONS CONFERENCE--Sofia, 9 Jan (BTA)--A one-week regional meeting of the member-states in the telecommunication project designed to link up Europe with the Mediterranean countries and the Middle East opened here today. The meeting is attended by specialists from Bulgaria, Greece, Iraq, Italy, Cyprus, Malta, Turkey, France and Yugoslavia. The director of the project, Dr Lars Engval, opened the meeting. Pointing out that after discussing the telecommunication project, the countries of this subregion will take the final decision for a stepped-up development of telephone, telegraph and telex means of communications. The plans are that the bulk of communications from the Middle East and the Mediterranean countries to Europe will be carried through Bulgaria, which is specified in the 1975 project. In the last 5 years, the number of telephone lines, which connect Bulgaria with other countries has risen more than 3 times. [Text] [Sofia BTA in English 1835 GMT 9 Jan 78 AU]

UN ON MIDEAST TELECOMMUNICATIONS--New York, 7 Jan (CPI-UN)--In close cooperation with the Arab League, the Arab Telecommunication Union and the Arab States Broadcasting Union, an international telecommunication union team has established a telecommunication network plan for the Middle Eastern and Mediterranean region, says a new United Nations report. The terrestrial and satellite telecommunication network will not only provide telephone and telegraph facilities between countries but will also help in improving the transmission of television and radio broadcasts. The distribution of educational television programmes, through direct community television, to sparsely populated and remote areas in the region will also be facilitated by the network. The plan covers regional requirements for telephones, telegraph, radio and television as well as special services including data transmission up to 1990. It includes analyses of the most economical network configuration, indicating the most feasible transmission systems and routing, using terrestrial and satellite telecommunication means. [Text] [Belgrade TANJUG in English 1131 GMT 7 Jan 78 LD]

USSR-UGANDA TV-RADIO PACT--An agreement on exchanges and cooperation in the field of television and radio was signed in Moscow today between Gosteleradio of the USSR and the Ministry of Information and Broadcasting of the Republic of Uganda. It provides for the exchange of television and radio materials on the life of the peoples of the USSR and Uganda, musical recordings and mutual visits by correspondents. [Text] [Moscow Domestic Service in Russian 1600 GMT 11 Jan 78 LD]

CSSR-PDRY RADIO AGREEMENT--A delegation of Czechoslovak radio led by Kvetoslav Faix, chief of the editorial office for news and political journalism, returned to Prague today from a visit to the capital of the PDRY--Aden. He signed an agreement there with Jamal, director general of radio and television of the PDRY, which provides for cooperation between the two broadcasting organizations in exchanging music and literary programs as well as radio workers. [Text] [Prague Domestic Service in Czech 1730 GMT 16 Jan 78 LD]

INDIA, GDR AGREEMENT--India and the German Democratic Republic signed in New Delhi today an agreement on exchange of radio programs. The agreement was signed by the minister for information and broadcasting, Mr. L. K. Advani, and by the GDR broadcasting minister, Mr Rudolf Singer [as heard]. [Text] [Delhi Domestic Service in English 1230 GMT 13 Jan 78 BK]

JAPAN-IRAQ PACT--Tokyo, 11 Jan--KYODO news service and IRAQI NEWS AGENCY (INA) Wednesday signed an agreement for news and photo exchange and cooperation. The accord was signed by Shintaro Fukushima, president, for KYODO, and Kahtan Lufti Al-'Ali, Iraqi ambassador in Tokyo, on behalf of INA, at the KYODO head office here. Under the agreement, KYODO and INA will grant each other the right to receive and distribute each other's international newscasts in their respective countries. The accord also provides for the exchange of newsphotos and mutual assistance and cooperation to each other's correspondents on professional duties. The agreement will be in force for 1 year, and is renewable on a year-to-year basis. [Excerpt] [Tokyo KYODO in English 0246 GMT 11 Jan 78 OW]

CSO: 5500

INTER-ASIAN AFFAIRS

THAI COMMUNICATIONS MINISTER INVITED TO VISIT VIETNAM

Bangkok BANGKOK POST in English 12 Jan 78 p 3 BK

[Text] Communications Minister Gen Surakit Maiyalap has been invited by the Vietnamese delegations currently visiting Thailand to visit Vietnam, Deputy Communications Minister Prasit Narongdet disclosed yesterday.

The communications minister presented a number of aviation equipments as gifts to the Vietnamese delegation during their meeting yesterday.

Mr Prasit said that Gen Surakit had accepted the invitation to visit Hai-phong port in Vietnam but had not yet decided on the date.

Mr Prasit revealed that Thailand, Laos, Hong Kong and Vietnam would meet in Vientiane on 9 February to discuss aviation cooperation among the four countries.

Subjects which will be raised at the meeting include Vietnam's ICAO membership, standardization of aviation radio waves among the four countries, charging rate for overflying and the date for the opening of each country's air space for the four countries' aircrafts.

CSO: 5500

INTER-ASIAN AFFAIRS

INDONESIA OFFERS FREE USE OF PALAPA SATELLITE TO ASEAN

Jakarta ANTARA in English 0716 GMT 16 Jan 78 BK

[Text] Jakarta, 14 Jan (ANTARA)--Indonesia has offered the use of the Palapa satellite system free of charge in an inter-ASEAN cultural exchange program, provided such use is free from commercial purposes.

To be able to use the Palapa satellite facilities, however, the ASEAN countries concerned will have to build an earth station capable of receiving and transmitting television broadcasts.

The disclosure was made by radio television-film director-general Dr Sumadi in a talk with ANTARA here Saturday, after having just returned from the ninth meeting of the permanent committee of ASEAN mass media held in Singapore, January 10 to 12. He said that the meeting had accepted the recommendations of last year's ASEAN mass media seminar in Bali in their entirety.

These recommendations, including the institution of inter-ASEAN news agency cooperation, will be made the basis for future ASEAN mass media activities and programs, he said. However, he said, the recommendations needed to be reviewed to determine which could be carried out forthwith and which would require time for implementation.

He noted that the Singapore meeting was the last meeting to have been held by the permanent committee of ASEAN mass media, as--in line with the structuring of ASEAN--there would be no more [word indistinct] on ASEAN mass media. In its place will come a standing committee on information and culture, trade and tourism, food and agriculture, transport and communication, industry, social development, science and technology, and banking.

The Singapore meeting also decided that all current programs be continued and upgraded, Sumadi said.

CSO: 5500

DEFENSE ELECTRONICS HAS HOPES FOR PROJECTS

Canberra THE AUSTRALIAN in English 12 Dec 77 p 13

[Text]

TWO MAJOR policy developments in the defence field expected soon could significantly affect the future of Australia's struggling defence electronics industry.

The industry's association, the Australian Telecommunications Development Association, is hoping that the decisions will make a firm commitment to the local manufacturers.

The first of the developments is the proposed, but as yet undeclared, extension of territorial waters to a 200-mile limit; the second is a policy shift to a more stringent application of the Australian Industry Participation (AIP) principle.

Planners in Russell Hill are proceeding with at least half a dozen projects which the industry hopes could help to revitalise it and restore a sense of purpose for the employment of skilled personnel on whom success depends.

Among the projects is "Humpty Doo," which is both a designation and the name of the Northern Territory site of a new high frequency

high powered radio transmitting station for the navy.

Others are "Hiport-Medport," "Raven" and "Discon," all of them code names for projects considered necessary for Australia's defence.

"Hiport-Medport" covers a planned air transportable radio communications system based on mobile radio communication posts that would be used in any integrated forward defence of Australia.

"Raven" is more than a single project; it involves a whole new generation of tactical single channel radio transmitting and receiving equipment for the army. Its scope is most easily understood in terms of the money involved — \$100 million.

"Discon" is an acronym for Defence Integrated Secure Communications Network, and involves the establishment of a nationwide top secret communications complex for combined operations by the Defence Department.

Major Australian and overseas electronics groups have been invited to undertake feasibility studies of these projects, or of stages of them. For some, tenders already have been submit-

ted. For "Discon", selected companies have been invited to submit proposals that are in accord with the requirements of the Defence Department.

While these defence tasks are quite specific, there are many others that are not, although they are now in the melting pot and will require decisions before very long.

Not surprisingly, the 200 mile zone will have a heavy bearing on the defence planners' eventual decisions.

An electronic "fence" around this zone is the only practical way in which a nation with such a huge land mass, with a population of only 14 million, and with a non-existent coast guard, can protect adequately these new outer limits.

At this point it is also worth keeping in mind that the total of the sea area between our coast and a 200 mile limit is about equal to our land mass, which itself covers three million square miles.

Limited numbers of ships and aircraft are simply not capable of adequately patrolling such a vast expanse of territorial water, although they can extend our electronic ability to

do so. A recent move in this direction has been the planned acquisition of a squadron of long-range marine patrol P-3C Lockheed Orion aircraft by the air force.

Our air force and navy are also examining other new aircraft with capabilities that will make the overall task a little easier.

Whatever the choices they will be required to have sufficient range to operate in defence contingencies along our "fence" and to be equipped with sophisticated avionics capable of extending Australia's long range defence surveillance.

Just how pest-proof our "fence" will be depends on just how effectively we can maintain it as a perimeter of surveillance.

With this in mind the Weapons Research Establishment is pursuing the "Jindalee" project involving long distance over-the-horizon radar.

An experimental station is now operating somewhere near the centre of the continent and the radar there is reported to be potentially capable of

tracking aircraft beyond the Australian coastline.

At the same time the air force is said to be interested in airborne early warning systems which involve aircraft which "loiter" at great heights.

This means of widening the perimeter of both surface and air surveillance was used by the United States during the Vietnam conflict, and the technique is now common to many national defence systems.

For Australia, the ATDA points out, this type of planning is vital.

to our national self-interest.

Equally vital, as much in peace and in war, is greater adherence by our governments to the "Buy Australian" principle.

When first mooted some seven years ago this principle was intended as a guide to the extent of Australian content in all defence procurement.

But a mandatory percentage — so essential to the continuity of technology and employment in Australia — has received scant consideration in recent years and, in fact, the principle has more often been ignored.

But there are now indications from Can-

berra that "Buy Australia" may soon begin to mean something as a bottom limit policy involving 30 per cent "Made in Australia" now appears to be an emerging requirement, and visiting defence equipment salesmen are being told they should examine carefully the extent of AIP in the submissions they hope to put up for tender.

"Buy Australian is not a chauvinistic phrase," an ATDA member said.

"Other countries practise national preferential systems to the point of ruthlessness to protect and develop their own industries. Perhaps it is time Australia decided to get with it, too."



IMPORTS of citizen's band radios are being challenged by an Australian development using easily replaceable integrated circuit modules.

The advanced technology means that componentry and labor content in each set is reduced by about 50 per cent.

The strong Australian-made move into

the booming CB market is the result of co-operation between a Sydney company and the components division of Plessey Australia.

Cadet Research Pty Ltd, Annandale, NSW, is manufacturing and marketing 1000 Black Knight module sets a month to sell at \$350.

Cadet — which stands for communication analog digital

electronics technology — is confident that the 12-watt PEP (Peak Envelope Power) single side band radio will perform better and be more easily maintained than many more costly imported competitors.

The light-weight sets are built around 11 recently designed test-proven Plessey integrated circuits and frequency synthesisers

in removable modules for on-spot replacement in the event of malfunction and a microprocessor unit for channel selection and memory.

Electronics engineers of Cadet say that the use of replaceable module circuits is a major technological breakthrough in the CB field and an Australian "first".

INDIA

BRIEFS

COMMUNICATIONS SATELLITE--A multipurpose Indian national satellite for use in telecommunications, television, meteorology will be ready by 1981. The center is expected to finalize the contract for its manufacture in another 2 to 3 months. This has been stated by the chairman of the Indian Space Research Organization, Prof Satish Dhawan, while talking to newsmen in Vishakapatnam. [Delhi Domestic Service in English 0240 GMT 10 Jan 78 BK]

CSO: 5500

INDONESIA

BRIEFS

MALUKU METEOROLOGICAL RADAR--Maluku this year will receive two meteorological radar units from the World Bank under a cooperation agreement between the World Bank and the communications department. The radar units will be installed in Ambon and Saumlaki in February by U.S. and Indonesian experts. [Jakarta Domestic Service in Indonesian 1230 GMT 13 Jan 78 BK]

CSO: 5500

FOUNDATION OF FIRST RADIO RELAY STATION LAID NEAR ULAANBAATAR

Ulaanbaatar MONTSAME in Russian 0600 GMT 17 Jan 78 OW

[Text] Ulaanbaatar, 16 Jan (MONTSAME)--A solemn foundation-laying ceremony of the first station of the radio relay line from the capital to Bayan-Olgii (Western Mongolia) was held today near Ulaanbaatar in the territory of Bayantsogt Somon, Tob Aymag of the MPR. The line will be constructed as a gift from the Soviet Union.

Present at the meeting were Y. Tsedensal, first secretary of the MPRP Central Committee and chairman of the MPR People's Great Hural Presidium, J. Batmonh, chairman of the MPR Council of Ministers; and other Mongolian leaders.

D. Gombojab, candidate member of the Politburo and secretary of the MPRP Central Committee, who delivered a speech at the meeting, noted: The establishment of this radio relay line in the MPR will make it possible to considerably expand the stable reception zone of central television transmissions and improve the quality of radio reception, which will promote communist training and raise the cultural level of the people.

In his speech, A. I. Smirnov, USSR ambassador to the MPR, noted that the foundation of the first station of the radio relay line is being laid at a significant time marking the 32d anniversary of the signing of the treaty of friendship, cooperation and mutual assistance between the MPR and the USSR. He reported that the latest equipment, which provides for a high degree of automation in controlling intermediate stations with the aid of telemechanical equipment, will be used in constructing the radio relay line.

Afterwards V. Tsedenbal, first secretary of the MPRP Central Committee and chairman of the MPR People's Great Hural Presidium, placed a commemorative capsule in the foundation in accordance with established tradition. Noting that this radio relay line is of great significance for the country's economy and for raising the living standard of the Mongolian people, Y. Tsedenbal referred to the Soviet people [sentence incomplete]. Y. Tsedenbal expressed deep gratitude to the CPSU, its Leninist Central Committee and L. I. Brezhnev, general secretary of the CPSU Central Committee and chairman of the USSR Supreme Soviet Presidium.

CSO: 5500

MONGOLIA

BRIEFS

RADIO RELAY LINE--Ulaanbaatar, 11 Jan--According to D. Gotob, MPR minister of communications, a foundation-laying ceremony will be held in mid-January for the first station on the radio relay line to be built in Mongolia as a gift of the Soviet Union. Addressing a press conference, D. Gotob said the radio relay line will relay national television and "Orgita" television programs as well as telephone and telegraphic traffic and radio broadcast programs. Construction of the relay line will be completed in 1982. [Ulaanbaatar MONTSAME in Russian 1826 GMT 11 Jan 78 OW]

CSO: 5500

THAILAND

BRIEFS

NEW TRANSMITTER IN SARABURI--In order to make government radio programs heard in all corners of the country and even beyond the frontier, the public relations department [PRD] will set up a new 1,000-kilowatt transmitter in Saraburi, it was disclosed yesterday by Lt Gen Bunrjan Buacharun, minister of the prime minister's office. Lt Gen Bunrjan noted that the most powerful transmitter now in use is only of 100-kilowatt power which is relatively unmatched with those of neighboring countries. He said that the PRD would purchase two transmitters, each of 500 kilowatts, for the new radio station in Saraburi. The minister added that the public relations department would also set up a radio network for educational programs to serve the education ministry's objective of teaching people in rural areas. [Text] [Bangkok BANGKOK POST in English 12 Jan 78 p 1 BK]

CSO: 5500

CZECHOSLOVAKIA

BRIEFS

EXPANDED SLOVAK TV PROGRAM--This year Czechoslovak television in Slovakia will expand its broadcasts by 300 hours compared to last year. Under the new program structure introduced 1 January 1978 some 6,300 hours will be broadcast in the two programs with 200 hours earmarked as a reserve for extraordinary political, cultural, or sports events. Sixty percent of the broadcasts will be prepared by the Bratislava and Kosice studios and 40 percent by Czech studios--from Prague, Brno or Ostrava. [Bratislava PRAVDA in Slovak 12 Jan 78 AU]

CSO: 5500

HUNGARY

BRIEFS

NEW TELEVISION RELAY STATIONS--Starting today, 10 January, new television relay stations will be in operation at Keszthely and Siklos. Both stations will improve reception of television programs in these areas. The Keszthely station will be received on Channel 9, and the Siklos station on Channel 10. [Text] [Budapest Domestic Service in Hungarian 0700 GMT 10 Jan 78 LD]

CSO: 5500

BRAZIL

DOMESTIC SATELLITE TO BE GIVEN PRIORITY

Rio de Janeiro O GLOBO in Portuguese 22 Dec 77 p 9

[Text] Brasilia (O GLOBO). The Brazilian domestic satellite program, which had been suspended in June of this year, will again become a priority effort for Brazil in 1978. This announcement was made yesterday by Communications Minister Euclides Quandt de Oliveira, confirming a news item published by O GLOBO.

"The domestic satellite project was postponed when Brazil's foreign exchange situation did not make further loans abroad advisable. But we had more than one complete financing proposal for the program and we will include it again among next year's priorities," said the minister.

The communications minister also said that, shortly after Brazil postponed the program, on 8 June of this year, a search was launched in an effort to find another option capable of replacing the domestic satellite.

"Unfortunately," said Quandt de Oliveira, "all of the other choices proved to be more expensive than the domestic satellite program and did not look efficient."

Accord

Brazil and Colombia have for some time been conducting separate studies on the creation of a domestic satellite, as was announced by the minister. However, the two countries began to consider the possibility of getting together in that effort during the second half of this year on Colombia's initiative; they would also allow the participation of other Andean Pact countries in the construction of a domestic satellite.

"This satellite however will not be used for communications within the South American community. If I am not mistaken, it is probable that the group project will turn out to be cheaper than if each country were to go it alone. We are thinking in terms of separate portions for each country in the satellite's construction so as to permit internal communications," he concluded.

Normal Increases

Minister Quandt de Oliveira yesterday told the press that "no provisions have been made for any change in the telephone rate adjustment criteria." The minister added that the 1978 adjustments will have to be "in line with the general price index." In addition to that he announced that his ministry is trying to install "more than a million phones" next year.

Quandt de Oliveira also revealed that the Ministry of Education Radio, in Rio and Brasilia, the Agricultural Technology Radio of Santa Tereza, in Espirito Santo, the Rural Radio of MEC [Ministry of Education and Culture] and Educational TV, likewise under the MEC, would be switched to the Ministry of Communications but that their programs would continue to be prepared under the responsibility of the MEC.

The communications minister thinks that the authorities must "really try very hard to reduce violence in Brazilian television programming." However he said that the problem is rather polemical:

"There is a group within ABERT (Brazilian Association of Radio and Television Broadcasting Stations) which is in favor of the establishment of new censorship criteria in order to reduce the level of violence. But it is my opinion that the problem must be resolved through a dialogue."

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BRAZIL

RADIOBRAS TO INCORPORATE MEC, TVE AS OF 1 JANUARY 1978

Rio de Janeiro JORNAL DO BRASIL in Portuguese 19 Dec 77 p 12

[Text] On 1 January Radio MEC and TVE will be incorporated in the RADIOBRAS [Brazilian Radio Broadcasting Enterprise] network, under the name of Radio and TV Culture of Rio de Janeiro, in accordance with the presidential decree establishing the enterprise and reorganizing the state's television and radio broadcasting system. Nevertheless, RADIOBRAS will be unable to perform its duties fully until 1979. By then, it will be necessary to specify its tasks better.

In accordance with the 1976 decree, RADIOBRAS would handle the broadcasting activity of the official stations and the production of news and entertainment programs. Radio MEC and TVE would be incorporated in national systems of educational programs. Only no one knows definitely the boundaries of each area, although very little will change as far as the public is concerned.

Establishment

RADIOBRAS was established to fill the cultural gaps in Amazonia, in addition to operating (on the basis of broadcasting) the state's radio and television stations, in Rio de Janeiro and Brasilia. It would also handle their news and entertainment programing. The first task has no problems. Radio Nacional reaches almost the entire Amazon Region and low-power stations have been installed in Amapa, Roraima, Acre, Aoindonia and small cities in the state of Amazonas.

There are problems with regard to production for the Center-East. First of all, there is a lack of criteria. "There is a certain half-nebulous area in the determination of what is news and what is educational, of what is entertaining and is not educational," the president of RADIOBRAS, Pedro Paulo Wandeck de Leoni Ramos, stated. He believes that to be a positive factor, "because it facilitates coordination and joint work."

There is also confusion with regard to technical matters, requiring "coordination between the parties concerned, so that difficulties stemming from the law's ambiguity may not come up" (for example: with whom to place equipment

used both in production and in broadcasting?). RADIOBRAS, which was established to operate and perform the government's radio broadcasting services, will handle the transmitters and broadcasting.

In the opinion of the president of the Central Brazilian Telecommunications Foundation, Jose Dondeu Junior, "the law has specified the incorporation of TV in RADIOBRAS and we have to comply with the law. Only time will tell how to organize the production of programs in this area.

"It was a very burdensome task for the minister of education to maintain an open television channel. RADIOBRAS is the appropriate enterprise for conducting this kind of operation. It was established for the specific purpose of operating radio and television channels."

Radio MEC programing will remain the same, in 1978, according to information provided by its manager, Heitor Salles, who is also in charge of SER [Educational Radio Broadcasting Service]. He believes that the change is good. "Our equipment will be renovated and the power of the transmitter is going to double. With the entrance of RADIOBRAS in the technical operation, we shall be able to devote ourselves more to production strictly speaking."

He stated that the National Symphony Orchestra, the chamber orchestra, the choral group and the ancient music and wind instrument ensembles will be renovated by means of competitions and under the guidance of the National Music Institute. Inequalities among musicians will also be solved, but the manager of Radio MEC refused to go farther in his statements. "The musicians have already heard many promises and I do not want to be one more making promises."

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BRAZIL

RADIOBRAS BROADCASTS DESIGNED TO BLOCK OUT RADIO HAVANA, OTHERS

Sao Paulo FOLHA DE SAO PAULO in Portuguese 10 Jan 78 p 4

[Text] Brasilia (Branch). In order to block foreign broadcasting stations, especially Radio Havana, Radio Tirana, the Voice of America, and BBC of London, RADIOBRAS [Brazilian Radiotelegraphic Company] will begin to transmit a special program daily, from 1600-2100, to Lawful Amazonia, generated by a transmitter with a capacity of 250 kilowatts, set up at the National Radio of Brasilia.

The announcement, released yesterday through the collaboration of the Ministry of the Army, stated that the program--aired on a frequency of 11,780 khz, on the 25-meter band, will serve as "instrument of support for the government's policy of integrating this vast Brazilian region whose population presently only has the option of listening to foreign broadcasting stations."

The programs will consist of music and news, concentrating on such topics as health, agriculture, nutrition, aspects of Amazonia and Brazil, plus coverage of athletic events and programs involving audience participation. During the 3 hours of broadcasting, 15 minutes will be devoted to straight news.

On Saturdays and Sundays, the programs will be broadcast for 5 hours, with emphasis on coverage of soccer games, government messages, and "review of the week" which will touch on the most important events of that particular period of time.

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BRAZIL

MINICOMPUTERS TO BE PRODUCED WITH FUJITSU TECHNOLOGY, EQUIPMENT

Rio de Janeiro O GLOBO in Portuguese 21 Dec 77 p 21

[Text] Porto Alegre (O GLOBO). EDISA [Digital Electronics, Inc.], one of the three companies mentioned yesterday by the CAPRE (Electronic Processing Activities Coordinating Commission) will begin to produce minicomputers as of the first half of next year. The models to be produced are the ED-301, with a memory capacity of 8-48 k, and the ED-311, with a memory of 16-64 k. The EDISA data input equipment project was not approved.

During the company's first year of operation, the sum of 34 million cruzeiros will be invested; the company's capital amounts to 100 million cruzeiros. The government participated in the EDISA capital with 25 percent through Procergs (Rio Grande Grande do Sul Data Processing Company), the BRDE (Regional Development Bank for the Far South), and Banrisu (Rio Grande do Sul State Bank); 15 private-sector enterprises came in with 75 percent.

Technology: 5 Years

Absorbing the Japanese technology of Fujitsu Industry--the contract is to run for 5 years--EDISA, during the initial phase, will operate together with the installations of some of the participants in the group, primarily Parks (Electronic Equipment Industry and Trade), Procergs, and PPS (Systems Processing Projects). The foundations of the new industry rest on these three enterprises. With experience in hardware, Parks--after having produced data teleprocessing equipment--will take care of the technical-electronic aspects as such, while the other two firms will stay with software, that is, the portion pertaining to the preparation of programs and language.

An area of 10 hectares in the industrial district of Gravatai, 30 kilometers from Porto Alegre, has been set aside for EDISA but the managers have not yet decided as to the definite location of the enterprise. Remembering that the decision concretely demonstrated the government's intention to support Brazilian industry, the three principal managers--Paulo Renato Kettner de Souza, of Parks, Dionisio Azambuja da Silva, of Procergs, and Ana Maria Mandelli, of PPS--as a matter of fact did not want to talk about the fact that the other project had not been approved. According to Paulo Renato, the question is still "a little bit nebulous."

EDISA is trying initially to produce 150 equipment units per year and, overall, will take aboard 350 employees, including 47 on the higher level and 157 on the medium level. Paulo Renato made it a point to emphasize the fact that, in the holding company of enterprises participating in EDISA, there was not a single one whose capital predominated over the others. "I think that we at EDISA can at least partly put an end to the usual exodus of technicians from Rio Grande do Sul since specialists in this field will now have an alternative in the form of the ability to work here."

Japanese Imports

About 50 percent of the equipment necessary for the establishment of EDISA will be imported from Japan on the basis of an option and not due to contract obligations, as was emphasized by Paulo Renato who stated that the Japanese market presents better purchasing conditions. Components of the manufacture of minicomputers will also be partly imported, such as, the integrated circuits which are not yet produced in Brazil; it is believed that it is much too early to talk in terms of export possibilities now. Ana Maria Mandelli argued that these three new Brazilian minicomputer companies are being established precisely in order to supply the domestic market. However, no manager ruled out the possibility of exporting if there were to be a production surplus.

Citing EDISA's intention not forever to absorb imported technology, Dionisio Azambuja said that allocations are already being made for an increase in the research effort. "What we are doing in the laboratories of the various Brazilian universities is already yielding optimum results; the problem is not so much the complete absence of a Brazilian technology but rather the need for industrial development."

The other enterprises participating in the group constituting EDISA are the General Industries Company, Habitasul, Micheletto Industries, the Iochpe Bank, Neo Form, Sarandi Industry and Commerce, Hydraulic Directorates of Brazil, the Minuano Foundation, and Springer Refrigeration.

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BRAZIL

BRIEFS

COMMUNICATIONS SATELLITE PURCHASE CONSIDERED--Brasilia--The minister of communications is planning to set up a commission, in January, to study the purchase of a communications satellite, together with other Latin American countries. The idea came up during the visit by President Carlos Andres Perez, of Venezuela, to Brazil. This project replaces plans for buying a domestic satellite, abandoned owing to the high cost of the equipment -- close to \$380 million -- and to a reduction in the ministry's appropriations. Purchase by several South American countries was suggested by President Andres Perez, and, in principle, Chile, Peru and Argentina would also be interested, in addition to Brazil and Venezuela. The satellite sought by Brazil would have "multidimensional" characteristics and should serve the Amazon Region primarily. In addition to that, the equipment would aid communications in the Rio de Janeiro-Sao Paulo area at times of congestion on the telephone lines. Besides the high cost, the project for launching a domestic satellite by Brazil also lost priority in view of the establishment of a microwave communication network in Amazonia. Division of its cost among other user countries, however, led the minister of communications to regard the project as feasible, economically, and positive for improving the nation's telecommunications system. [Text] [Rio de Janeiro JORNAL DO BRASIL in Portuguese 18 Dec 77 p 41] 10042

RADIOBRAS ANTICIPATES EXPORTING TRANSMITTERS--Brasilia--"Within 1 or 2 years, Brazil will not only import but will also be able to export transmitters and radio broadcasting equipment," the president of RADIOBRAS [Brazilian Radio Broadcasting Enterprise], Pedro Paulo Werneck de Leoni Ramos, stated yesterday when he presented the objectives of the first contract signed with a private company for supplying transmitters and radio broadcasting equipment. The intention of the Ministry of Communications in making those contracts was to make the development of radio broadcasting possible in this country. It had been subjected to an increasing flow of imports, aiming thereby to establish its network of transmitters in Amazonia and seeking primarily to offer private enterprise an updating of this equipment as well as providing television with means for expanding its private retransmission networks. According to Pedro Paulo Werneck, demand for radio broadcasting fully justifies the existence of the first plant, however the market makes it possible for at least two plants to exist. The present concern of RADIOBRAS pertains to the national integration network in Amazonia and for that purpose the enterprise has specific appropriations for expanding its network of transmitting stations. [Text] [Rio de Janeiro JORNAL DO BRASIL in Portuguese 11 Dec 77 p 52] 10042

NEW CPA LINES IN SAO PAULO--Brasilia--The minister of communications, Quandt de Oliveira, announced, yesterday, that by June 1978 a contract will be signed for the installation of 50,000 telephone terminals in the city of Sao Paulo. They will operate by means of the system of semielectronic exchanges, the spatial CPA [expansion unknown; probably Automatic Main Exchange]. Spatial CPA differ from traditional exchanges in having a brain and a logic located in computers, while conventional exchanges concentrate their impulses in groups of relays. In addition to taking up less room, spatial CPA include more terminals and will simplify telephone traffic of the city of Sao Paulo. [Text] [Sao Paulo O ESTADO DE S. PAULO in Portuguese 22 Dec 77 p 24] 10042

CSO: 5500

PERU

TELEPHONE SERVICE TO UNDERGO COSTLY EXPANSION

Plan To Add Lines Approved

Lima EL COMERCIO in Spanish 17 Nov 77 Front page

[Text] The installation of 27,000 new telephone lines in Lima in 1979 and 1980 comprises the expansion plan of the Peruvian Telephone Company (CPTSA) which was approved by the Government.

By means of a Supreme Decree, the Peruvian Telephone Company has been authorized to sign a contract with the Belgian company Bell Telephone Manufacturing to supply equipment and technical advice.

The Belgian firm, in addition to providing technical assistance, will supply the necessary interconnection equipment.

The Belgian company will also be in charge of carrying out the systems engineering, installation engineering, and the necessary technical documentation within 30 days of the effective date of the contract.

The 27,000 telephone lines will be installed as follows: 7,000 in 1979 and the other 20,000 during the following 12 months.

The Peruvian Telephone Company will request that the Ministry of Transportation and Communications approve the percentage of costs that it can guarantee for consultations, viatica and traveling expenses and fares for technicians.

The national enterprise will also pay the Bank of the Nation the equivalent of .25 percent a year, to be paid to the Public Treasury, on the balance of the amount guaranteed by the state.

100,000 Soles To Install Telephone Line

Lima LA CRONICA in Spanish 26 Nov 77 p 2

[Text] It costs approximately 100,000 soles to install a telephone line in the metropolitan Lima area. For this service, subscribers pay about 12,000 soles in stocks and installation fees.

This amount differs depending on whether the customer is requesting a residential, commercial or professional phone. But in no case is the amount paid more than 50 percent of the installation cost.

The 100,000 soles that it costs to put each telephone line in service includes the cost of connections, structures, cables and labor which are necessary for providing the service to the customer's home or place of work.

In spite of the high installation cost, spokesmen for the Peruvian Telephone Company say, the enterprise still plans to expand, since its objective is to serve and not to sell.

The spokesmen say that the goal is to give access to telephone service to more and more citizens of Lima.

Housing and Telephones

Statistical studies undertaken by the company indicate that by 1980 there will be 860,000 homes, and the number of telephone lines will have reached 241,000.

If this trend continues, by 1990 our capital will have 1.86 million homes. If the expansion plans are carried out in accordance with the goals established this year, 1.1 million telephone lines will have been installed.

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C.S.O: 5500

PERU

TV TO REACH VILLAGES IN HUAYLAS PROVINCE

Lima LA PRENSA in Spanish 23 Nov 77 Front page

[Text] Television will soon reach the people of Callejon de Huaylas by means of a transmitter that will send pictures from Huaraz.

The project is being carried out through the Central Information Office and Channel 4, and it is well underway.

This information was provided to this paper yesterday by a group of authorities of the province of Huaylas after having seen the representative of the department of Ancash to the Council of Ministers, Minister Arias Craziani.

The subprefect of Huaylas, Luis Alberto Muro Mesones, said that efforts to finish the hospital and to build the facility for accused criminals in Caraz, the capital of the province, are also moving along satisfactorily.

He also said that next year's budget allows for allocations for the reinstitution of the Office of Social Security in that city. The office was closed in 1970.

The commission stressed Minister Arias Craziani's efforts to try to solve the department's problems and particularly those of the province of Huaylas.

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CSO: 5500

INTER-ARAB AFFAIRS

BRIEFS

IRAN-UAE NEWS PACT--On the basis of an agreement signed at PARS headquarters this morning, by Mr Mahmud Ja'fariyan, deputy head of the National Iranian Radio and Television Organization--NIRTO--and supervisor of the PARS News Agency, and Mr Ibrahim Al-'Abd, acting head of the UAE News Agency, the two agencies will cooperate in the exchange of news and specialists in order to benefit from each other's experience. To this end Mr 'Abdullah an-Nuwaysi, deputy minister of information and culture of the UAE, who arrived in Teheran last Thursday at the head of a delegation, together with his entourage came to the PARS News Agency this morning and visited its various sections. During this visit the cooperation agreement between the PARS News Agency and the UAE News Agency was signed. [Text] [Teheran Domestic Service in Persian 1000 GMT 7 Jan 78 LD]

CSO: 5500

EGYPT

BRIEFS

COMMUNICATIONS NETWORK PLANNED--The council of executive directors of the International Bank for Reconstruction and Development, will sign a special agreement next month to finance projects for renovating the telecommunications network in Egypt. The loan is for the sum of 53 million dollars and will be presented to the ministry of communications by the International Monetary Fund during the period between 1978 and 1980. This was announced by Samir Karim, the undersecretary of the Ministry of Economy for International Finance. The projects that will be financed from this loan will include the installment of several new automatic exchanges including 220,000. Some 65,000 of these will be in Cairo and 60,000 in the other districts. Co-axial cables will be installed between al-Mansurah, Dumiyat and Cairo, and 3,000 telex lines in Nasr City in addition to 1,000 teletypes. The projects will also include making cable extensions and radio shortwave networks which connect the exchanges in Cairo with the districts. There will be 2,000 transfers for internal lines. The loan will be paid off over 50 years allowing 10 years grace at an annual interest rate of 2 percent. [Text] [Cairo AL-JUMHURIYAH in Arabic 8 Jan 78 p 4]

CSO: 4802

IRAN

PARS LONG-DISTANCE TRANSMITTERS GO INTO OPERATION

Teheran PARS in English 1820 GMT 4 Jan 78 LD

[Text] Teheran 4 Jan PARS--The first group of PARS news agency (PANA) long-distance transmitters started operation as of midnight on December 31, 1977, in cooperation with the Iranian Telecommunications Company. In this way for the first time PANA has its own international news transmission equipment, and will soon begin a direct international news service.

Two daily news transmissions will be made in English covering large areas of the Middle East, North Africa, Europe, and the whole of Asia. PANA also plans to transmit further in the near [as received] news in Arabic for Arab countries. A second group of transmitters has been ordered by NIRT [National Iranian Radio and Television] from the manufacturers, with which the international coverage of PANA will be greatly extended.

At present, PANA's international news is transmitted for 3 hours by its telex network and the world-wide Associated Press network. With the new transmitters, the news of Iran will also be sent directly and simultaneously to all news agencies and mass media in the area under the transmitters coverage. These transmitters will also cover the whole of Iran. At the same time, PANA uses other communications facilities to send out news from Iran to other parts of the world. In addition to the AP, it has made an agreement with Interpress Service for dispensing PANA news services to newspapers in the Third World countries.

In addition to its daily English language bulletin, PANA has 4 other publications which are issued every morning. These are daily news in Persian, which contains the latest events of Iran, and world economic reports in Persian, and the new publication ANBA-OL-YOM in Arabic, which covers Iranian events and regional issues.

PANA also transmits important news or commentaries appearing in the Iranian press for the use of foreign mass media.

CSO: 5500

IRAQ

BRIEFS

AL-SULAYMANIYAH MICROWAVE PROJECT--At the beginning of next month, operations will begin at the microwave project in al-Sulaymaniyah Governorate. A source in the State Establishment for Post, Telegraph and Telephone [said] that the project will include 75 phone channels and 48 telegraph channels. It will connect al-Sulaymaniyah with all areas of the country by telephone and television. The source added that the project, whose cost is 857,722 dinars, is one of the projects which are being currently carried out to secure automatic communication between the governorates. On another level, the engineering cadre has finished making plans for a microwave project to connect the governorates of al-Anbar and Wasit with the other governorates. [Text] [Baghdad AL-THAWRAH in Arabic 28 Dec 77 p 5]

CSO: 5500

SAUDI ARABIA

GOVERNMENT SELECTS SWEDISH PHONE SYSTEM

Stockholm DAGENS NYHETER in Swedish 15 Dec 77 p 32

[Article by Lars Ramklint]

[Text] The Ericsson Group has won Swedish industry's largest order of all time. Saudi Arabia has commissioned L.M. Ericsson, the Dutch firm of Philips, and Bell Canada to set up a complete telecommunications system in that country over a 3-year period. The price comes to more than 11 billion kronor. For the Swedes, the most important item will be the exporting of equipment worth about 2 billion kronor.

The giant order from Saudi Arabia will provide a welcome boost to employment at L.M. Ericsson's plants over the next few years, although no new jobs are in the offing.

The deliveries from Sweden will include a number of different products.

The most important thing for L.M. Ericsson is that the group's new computer-controlled AXE [expansion unknown] telephone exchanges will be used both as main exchanges and as local exchanges in the larger cities. Ericsson's plants in Norrkoping, Ostersund, Alvsjo, and Katrineholm can take pleasure from this order.

Sweden will also supply 400,000 new telephone sets from L.M. Ericsson's plant in Karlskrona. They will be completely electronic, using pushbuttons instead of dials.

Also included are large quantities of cable and equipment for the system. These will come from the plants in Hudiksvall, Pitea, and Soderhamn.

There is no chance of any new jobs opening up at L.M. Ericsson's plant.

Bjorn Svedberg, L.M. Ericsson's managing director, said, "We have already been producing partly for stock, and the capacity in the plants is being poorly utilized."

He added, "We need this and more besides if the situation is not to become extremely difficult."

Over the next 3 years the order from Saudi Arabia will boost Ericsson's exports by about 700 million kronor. This can be compared with an export value of about 2.7 billion kronor last year.

The order also provides that L.M. Ericsson is to set up a project management team in Saudi Arabia. About 450 people will be recruited for the purpose. A whole city with homes, schools, and hospitals is to be built for those employees and their families.

L.M. Ericsson will use subcontractors, including South Korean construction firms, for a large part of the work in Saudi Arabia.

The entire contract comes to just over 11 billion kronor, of which Philips and L.M. Ericsson will share 9 billion between them. Most of that will consist of compensation for work done on the site. The third partner is Bell Canada, a telephone operating company that will be responsible for operating the system during the first 5 years.

Philips is supplying automatic minor exchanges for rural areas and various kinds of transmission equipment at approximately the same value as L.M. Ericsson's share of the contract.

ITT Loses Out

The order from Saudi Arabia marks the second time in 6 months that Ericsson has been the winner in closely watched international bidding. In September the customer was Australia, and on that occasion L.M. Ericsson won out over the telecommunications firm of ITT, which is three times larger. At the time, the ITT chairman swore that he would win the Saudi Arabian order at all costs. But again Ericsson got the job, this time together with Philips and Bell Canada.

The success in Australia was viewed chiefly as a public relations victory that would help L.M. Ericsson sell its new computer-controlled AXE system. The Australian deal was not very important from the standpoint of money. And it made scarcely any contribution at all to reducing unemployment in Sweden.

But this time, as has already been seen, significantly larger orders and more jobs for Sweden are involved.

L.M. Ericsson was able to start counting on the Saudi Arabian job as recently as last summer. At first the invitation to bid had gone only to Philips, which on the first round indicated that the price would be about 27 billion kronor. Then the Saudis backed out, and Philips joined with Ericsson to make a new offer.

A tremendous amount of work lies behind their offer. It cost Ericsson at least 2 million kronor. The documentation fills almost 3 meters of shelf space.

L.M. Ericsson has been involved in setting up Saudi Arabia's telephone network from the beginning, and that was a positive factor in closing the deal. Today there are about 200,000 lines. That number will be more than tripled--to 660,000 lines--through this expansion program.

The cooperation with Philips was important because, among other things, the Dutch firm has enjoyed very good relations with the royal house. One of the crown prince's sons is a Philips representative.

Ericsson's manager Bjorn Svedberg wants to give some of the credit for success to all the partners. He points out that Bell Canada is coming in with a professional organization capable of operating a telecommunications system.

Bjorn Svedberg emphasized, "This [job] does not solve all of the Ericsson Group's future problems. But the order gives a very big boost for the next few years."

Svedberg pointed out, "Ericsson still needs many big orders before the AXE system's huge development costs can be recovered."

No Champagne

It now looks as though the transition to electronics is going to move faster than expected. This creates problems for conventional technology, but Svedberg does not feel that the successes with the AXE have increased the difficulties. There are still countries that are sticking to the older systems.

It was the difficulties encountered by the older systems that led to the proposal early in 1977 to close down Ericsson's plants in Orebro and Olofstrom. Employment at those locations was saved in part because the Swedish Telecommunications Administration ordered new automatic switchboards from Ericsson.

Its international successes over the past 6 months have aroused greater hopes within the Ericsson Group, but the firm's management warns against sounding the "all-clear" too soon. The flush of victory was not noticeable among Ericsson's personnel on Wednesday. The mood at the head office on Midsommar Circle was described as follows by information officer Nils Tengberg:

"We didn't break open the champagne, but we did exchange smiles."

Ericsson Stock Wins on Stock Exchange

L.M. Ericsson stock has become one of the year's winners on the stock exchange. After reaching its lowest point last spring, when the threat of layoffs was

hanging over Olofstrom and Orebro, the firm's stock climbed by nearly 60 percent following a spurt on Wednesday after the order from Saudi Arabia became known.

The stock exchange received the news direct from L.M. Ericsson on Wednesday morning. When trading began, the stock sold first for 130 kronor and later for 132 kronor, compared to 125 and 124 kronor on Tuesday.

L.M. Ericsson's lowest price this year was 83 kronor.

Trading was lively on Wednesday. More than 14,000 shares changed hands.



The telephones that L.M. Ericsson will sell to Saudi Arabia look like this.

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CSO: 5500

SUDAN

BRIEFS

NUMAYRI INAUGURATES TELECOMMUNICATIONS STATIONS--Khartoum, 9 Jan (SUNA)-- President Numayri inaugurated yesterday evening 4 satellite and 5 microwave stations at a special ceremony held at Omdurman television studio. The president contacted directly some political supervision and commissioners in Wau, al-Fashir, Kadugli and (Damazin) satellite stations, and in Kassala, al-Qadharif, al-Ubayyid, Umm Ruwaba and Kosti microwave stations. He delivered a statement on the occasion congratulating the people on this great achievement. [Belgrade TANJUG in English 0941 GMT 9 Jan 78 LD]

MICROWAVE, SATELLITE STATIONS--SUNA has reported that President Ja'far Muhammad Numayri will open on 8 January four satellite stations and five microwave stations at a ceremony to be held in the television studio in Omdurman. The president will declare the satellite stations open by contacting the political supervisors and provincial governors in al-Fashir, Kadugli, al-Damazin and Wau, and will declare the microwave stations open by contacting Kassala, al-Qadharif, Kosti, Umm Ruwaba, and al-Ubayyid. These stations will be used to transmit television programs, telex messages, telephone calls, and cables. SUNA has also learned that democratic Sudan television will begin today to transmit its programs to al-Fashir, Kadugli, al-Damazin, Wau, Kassala, al-Qadharif, Kosti, Umm Ruwaba, and al-Ubayyid. Citizens in all these places and neighboring areas will be able to view television programs starting today. They will also be able to view the country's celebrations of the independence anniversary from Dunqulah. [Text] [Omdurman Domestic Service in Arabic 1500 GMT 2 Jan 78 LD/EA]

TELECOMMUNICATIONS, POSTS CORPORATIONS--President Numayri announced in his monthly program that he had signed orders establishing a General Telecommunications Corporation and a General Posts and Telegraphs Corporation under the General Corporations Law of 1976. He referred to the telecommunications revolution the country was experiencing and to the inauguration last week of the second phase of the microwave network to carry television and telex services to Kassala, al-Qadharif, Sennar, Kosti, Umm Ruwaba, al-Ubayyid, Wau, Kadugli, al-Damazin and al-Fashir as part of the framework of the network which established communications with Nyala, Juba, and Dunqulah. The president also announced that the television transmission would reach Malakal by the end of this month. Automatic telephone communications would also reach the same town in May. The same services would reach Karimah, Bor, and Rumbek in (?July) [words indistinct]. Then, in October this year, they would reach Yambio and Wadi Halfa. [Excerpt] [Omdurman Domestic Service in Arabic 0800 GMT 17 Jan 78 LD/EA]

UNITED ARAB EMIRATES

BRIEFS

MERGE RADIO STATIONS--Abu Dhabi, 4 January--His Highness Shaykh Sultan Ibn Muhammad al-Qasimi, member of the Supreme Council of the UAE and ruler of Sharjah, has decided to integrate the UAE radio station in Sharjah with the voice of UAE radio in Abu Dhabi in order to make it a branch of the state's official radio. This decision has resulted in cancellation of broadcasts from Sharjah and has turned the Sharjah broadcasting studios into a center for the production of programs by intellectuals and artists from all parts of the Arab nation. These programs will be supplied to the state radio. This was announced last night by Ahmad Ibn Hamid, the minister of education in the UAE, following a meeting between his highness President Shaykh Zayid ibn Sultan Al Nahayyan and his highness Shaykh Sultan ibn Muhammad al-Qasimi. He said that, in keeping with the policy of unification, it was decided to close down the black and white UAE television studios in Abu Dhabi and to convert them into studios producing local programs. He added that he has issued the necessary executive decisions in order to have these unifying steps applied. [Text] [Doha QNA in Arabic 0745 GMT 4 Dec 77 NC]

CSO: 5500

INTER-AFRICAN AFFAIRS

BRIEFS

PAN-AFRICAN TELECOMMUNICATIONS UNION--The OAU will sponsor a conference of plenipotentiary delegates in Addis Ababa from the 5th to the 9th of this month with a view to establishing the Pan-African Telecommunications Union (UPAT). According to an announcement by the Secretariat of State for Communications, Angola will be represented at the conference by Bessa Victor, general director of communications, who will head the delegation, and by Jose Leitao da Costa e Silva, director of EPTEL [Public Telecommunications Enterprise]. [Text] [Luanda JORNAL DE ANGOLA in Portuguese 3 Dec 77 p 2] 11798

ANGOLA COMMUNICATIONS WITH CONGO--Luanda, 23 Dec--Telephone communications have been inaugurated between Angola and Congo. Communications between the two countries had previously been routed through Lisbon or Paris. At the beginning of this month, direct telephone and telex connections were also established between Angola and Romania, Brazil, Belgium, and Switzerland. In a communique issued in Luanda, the Secretariat of State for Communications said that the establishment of new and more efficient links between Angola and foreign countries "is aimed at creating instruments capable of guaranteeing the development of economic and social relations with every country in the world." [Text] [Luanda JORNAL DE ANGOLA in Portuguese 24 Dec 77 p 14] 11798

CSO: 5500

ANGOLA

TELECOMMUNICATIONS ESTABLISHED WITH USSR, EUROPE, BRAZIL

Luanda JORNAL DE ANGOLA in Portuguese 1 Dec 77 p 2

[Text] Beginning today there will be direct international telephone and telex connections--via satellite--between the People's Republic of Angola and the USSR, Romania, Brazil, Belgium, and Switzerland, according to a communique from the Public Telecommunications Enterprise.

The communique says, "The Public Telecommunications Enterprise (EPTEL), which fits into the context of policy established by the People's Republic of Angola through the Secretariat of State for Communications, has been seeking, within the general framework of the telecommunications policy, to create instruments capable of guaranteeing the development of economic and social relations with every country in the world.

"In the pursuit of its objective, it has therefore engaged in various actions throughout its structure as a result of the need to introduce or alter its equipment in keeping with the technical innovations that are constantly appearing in the field of telecommunications. The purpose is to assure a certain degree of independence with regard to transit countries in the handling of traffic."

According to EPTEL, the system to be used is more economical than the conventional system of permanent connections "when a certain ratio of traffic exists between two countries, since the charge for use of the satellite is based only on the duration of the telephone call."

We recall that there are already 37 countries in the Americas, Africa, and Europe that use this system. We will be able to obtain direct connections with them as soon as the operating agreements are concluded.

11798
CSO: 5500

GHANA

BRIEFS

GHANAIAN SATELLITE COMMUNICATIONS--Accra, 6 Jan (GNA)--The United States firm Global Communication Corp is to pre-finance the rehabilitation of Ghana's radio communications system at a cost of 3 million dollars. The commissioner for transport and communication, Mr E. R. Dwemoh, who disclosed this yesterday said the firm would also set up mobile satellite stations in parts of the country. Work started on Ghana's first telecommunication satellite project last month. The project, expected to be completed within 18 months, is estimated at 13 million dollars of which the Canadian Government is providing 6.5 million. The Spar Technology Incorporated of Canada is constructing the project which would enable Ghana to have telecommunication [words indistinct]. [Text] [Accra GNA in English 1215 GMT 6 Jan 78 LD]

CSO: 5500

MADAGASCAR

BRIEFS

RADIO NETHERLANDS COOPERATION--The president of Radio Netherlands, Mr J.W. Acda, is presently visiting Madagascar to check on the progress of his firm's activities here. Radio Netherlands is in the process of setting up six medium-wave relay stations; those at Maintirano, Antsirabe and Morondava are already operational. Work on the Nossi Be, Ambatondrazaka and Antalaha stations is expected to begin soon. Total cost of the project is 200 million Malagasy francs. [Excerpt] [Tananarive MADAGASCAR-MATIN in French 12 Dec 77 p 3]

CSO: 5500

NIGER

ALGERIAN AID PRAISED BY MINISTER

Niamey LE SAHEL in French 19 Dec 77 p 1, 9

[Text] With the inauguration of the Goudel earth station, our country yesterday entered the era of space telecommunications.

The chief of state, Lieutenant Colonel Seyni Kountche, who presided over this inauguration, was surrounded by several members of the Supreme Military Council, of the government and of the diplomatic corps accredited to our country, as well as the Algerian minister of posts and telecommunications.

The ceremony presented the opportunity to praise Algerian-Nigerien cooperation which gave birth to the station.

First of all, the minister of public offices and labor and minister of posts and telecommunications, Mr Alou Harouna, opened the ceremonies by describing the importance of telecommunications which, he said, "are currently universally recognized as an essential factor of sovereignty and economic, social and cultural development."

After having rejoiced in the fact that Nigerien-Algerian cooperation has progressed in this field which is important for our country's development, the minister reminded his audience of the Supreme Military Council's actions in this area since the national Armed Forces took over the government on 15 April 1974.

We must respond to the needs of our country's economic, social and cultural development, extend telephone service to the isolated rural areas so as to integrate them into all national activities and modernize equipment by planning for its utilization in the full automation of our telecommunications network.

To do this, considerable financial means and qualified personnel are necessary. "So," the minister revealed, "the triennial program has called for the sizeable sum of 7 billion, of which 5.4 billion will be invested in

the national network and 1.5 billion in the continental network." The project inaugurated yesterday lies within the framework of the intercontinental network.

"Algerian aid," minister Alou Harouna continued, "is arriving just at the right time to become integrated into the telecommunications development program in our country while at the same time complementing it."

Having given these technical details, Mr Alou Harouna thanked the Algerian Republic for its generous aid to us, declaring that it has not been limited to the earth station, but that it also includes other areas like switching equipment and professional training. Thus, continued the minister, two telephone exchanges (one comprising 1,000 lines for Niamey, one with 200 extendible lines for Agadez) and 1,000 telephone sets have been given us by Algeria. Furthermore, 17 Nigerien technicians have been trained and five others are being trained in that country.

Once again thanking the Algerian Democratic and Popular Republic, the minister of public offices and labor and minister of posts and telecommunications said that this project was a concrete example of the horizontal aid recommended by the last conference of non-aligned countries.

It is within the framework of this solidarity between non-aligned countries and more precisely between Algeria and Niger that the Algerian minister of posts and telecommunications, Hadj Mohammed Zerguini, who arrived Saturday in our country to attend this ceremony, responded.

Emphasizing the different areas in which Nigerien-Algerian cooperation has been realized, Mr Zerguini expressed his satisfaction that everything was being done today to break down the isolation that the Sahara desert seems to have imposed forever on our two peoples which are so close. Along these lines, the Algerian minister was happy about the impending completion of the Transsahara road for which his country will soon finish the section assigned to it, while praising Nigeria's participation in the construction of this road which will be an important step in opening up our country.

Earlier, Mr Zerguini had pointed out that the Algeria-Niamey airline is working towards this goal.

The completion of the earth station in our country, he affirmed, is one of the fundamental objectives of the Algerian Democratic and Popular Republic regarding aid to non-aligned countries so that they can fully gain their sovereignty and national independence.

The Goudel earth station belongs to the new generation of medium-sensitivity stations especially recommended by the International Organization of Satellite Telecommunications (INTELSAT) for countries whose international traffic volume cannot economically justify the installation of a large station.

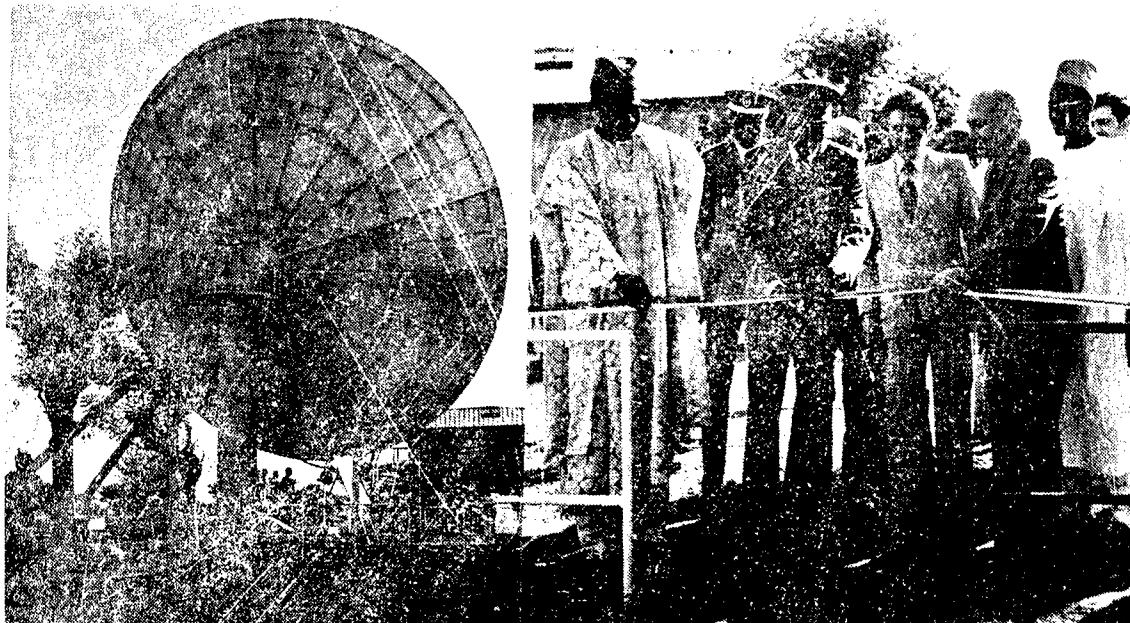
It includes: --On one hand, an antenna made up of two reflectors: the main reflector has the shape of a parasol 13 meters in diameter and it supports the auxiliary reflector, the light source and the low-noise receiver. The antenna's movements around the two axes of rotation are controlled by two electric motors which permit the corrections necessary to follow the satellite.

This antenna weighs 20 tons and is aimed at the geostatic INTELSAT satellite IV F1 over the Indian Ocean, so-called because, placed on a circular orbit equal in radius to 36,000 km from the earth and revolving at the same speed as the earth, it seems stationary to a terrestrial observer.

--On the other hand, the station is equipped with electronic transmitting and receiving equipment for telephony and telegraphy and can also receive color television (the PAL system).

In the current phase, the Goudel earth station, wired for 12 telephone circuits, is equipped with: two telephone circuits and three telegraph circuits to Algiers and one color TV channel.

It was built by technicians and engineers of the Japanese firm Mitsubishi and the financing of the project (except for the civil engineering work and the transportation of materiel from the airport to the site and the station's linking up to the national network, which was assumed by our own country) was undertaken entirely by the Algerian Democratic and Popular Republic.



The chief of state cuts the inaugural ribbon held, on the left, by Mr Alou Harouna and, on the right, by Mr Zerguini. On the right [sic] the station's parabolic reflector.

NIGERIA

FMG CONTROL OF RADIO STATION TO BE ASSUMED ON 1 APRIL

Kaduna NEW NIGERIAN in English 10 Dec 77 pp 1, 3

[Text] All radio stations with shortwave and powerful medium wave transmitters are to be taken over by the Federal Military Government as from April 1, next year.

According to a Federal Government spokesman, the radio stations would be controlled by the FMG, but they would continue with their transmissions as usual. Any state government can still establish radio stations but with medium wave transmitters.

An official statement in Lagos yesterday said by April next year, all the states which do not enjoy the facilities of the Nigerian Broadcasting Corporation (NBC) are expected to have these stations installed in their capitals.

The FMG said a panel has also been appointed to examine ways of implementing the decision to restrict non-Federal broadcasting organisations to the medium wave-bands and make appropriate recommendations to government.

Below is the text of the government's statement:

"At their meeting of 8th December, 1977, the Supreme Military Council and the National Council of States jointly considered the question of the continued use of short-wave transmitters by state-owned broadcasting organisations in the context of the national radio stations re-organisation and development programme.

"They noted the progress being made in the implementation of the decision to streamline both internal and external broadcasting in Nigeria which, over the years, developed haphazardly without significant co-ordinated rationalisation in the allocation and use of frequencies. This streamlining exercise includes the siting of transmitters in each state of the federation in order to radiate national programmes of the N.B.C. These

transmitters as well as any radio station established by state governments will transmit in medium-wave bands sufficient to ensure effective coverage of the area of the particular state concerned.

"The national radio organisation, that is the N.B.C., which is being geared and improved to provide effective broadcasts throughout the federation as well as to the outside world, will continue to transmit on both the medium-wave and short-wave bands.

"The need to fully and effectively implement these policies necessitated the councils to consider the future of broadcasting organisations owned by individual or group of state governments and which are up to now, transmitting on short-wave bands with greater reach than their areas of immediate jurisdiction.

"The councils decided that such organisations will be taken over by the Federal Military Government with effect from 1st April, 1978, the final date by which all the states that do not now enjoy the facilities of the N.B.C. are expected to have these stations installed at their capitals. However, they will continue to enjoy operational autonomy similar to those enjoyed by state T.V. stations taken over by the Federal Military Government.

"Further, in view of the reputation which some of these organisations have built up over a long period, the nature of the programmes they offer as well as the need to enable them to retain their large listenership of programmes tailored for listeners in vernacular languages in particular, it was decided that everything possible should be done to maintain the distinctive character of these radio stations.

"In view of these considerations, a panel was appointed to examine ways of implementing the decision to restrict non-Federal broadcasting organisations to the medium-wave bands and make appropriate recommendations to government. The panel comprises the chief executives of all the radio stations affected, representatives of the Federal Cabinet Office, Federal Ministries of Information, Establishments and Justice and the N.B.C. The Permanent Secretary, Federal Ministry of Information, will be the chairman of the panel."

CSO: 5500

SOUTH AFRICA

FICKSBURG TV TRANSPONER TO BE REPLACED

Johannesburg THE STAR in English 13 Jan 78 p 7

[Text]

BLOEMFONTEIN — One Free State town is expected to find an extra R14 000 for a new television relay station because its R1 500 transposer — which gives excellent service — does not comply with SABC specifications.

The town is Ficksburg. But, Jagersfontein, Philipolis and Bethulie have also been instructed to comply with stringent specifications, at great expense.

The town clerk of Ficksburg, Mr Frans Viljoen, said the private relay transmitter which had been financed by the residents without any help from the SABC was supposed to be replaced by a new transmitter costing R9 000. An additional R5 000 would have to be spent on ultra high frequency (UHF) aerials to replace the very high frequency (VHF) aerials.

Local authorities also have to pay the SABC R500 to have the transposers inspected and are responsible for maintenance.

Mr Abe Levin, responsible for the erection of relay transmitters at Jagersfontein, Bethulie and Philipolis, said: "We pay licence fees and are willing to spend money to get the signal ourselves where it might take the SABC two years to provide them."

"In Jagersfontein, with a population of only about 800 whites, residents are not willing to pay thousands of rands for a repeater."

Mr Levin erects his transmitters at R1 000 each.

According to Mr J E van Zyl, acting head of administration at the SABC in Johannesburg, the SABC specifications were measures taken by the SABC to prevent interference with any of their frequencies or with the proposed extension of the SABC service.

CSO: 4420

SOUTH AFRICA

RADIO RSA TO OPERATE 500-KILOWATT TRANSMITTERS

Pretoria Department of Information in English 1015 GMT 11 Jan 78 LD

[Text] Johannesburg--Radio RSA, the external service of the SABC, is to begin operating its three new 500-kilowatt shortwave transmitters within the next couple of months, says an SABC spokesman.

The three transmitters were ordered from abroad a couple of years ago so that Radio RSA could improve its service, and they had already been installed.

The spokesman said the use of the transmitters was a normal expansion of Radio RSA's facilities which had nothing to do with the planned radio propaganda campaign against South Africa which the United Nations intended launching. The SABC would not jam broadcasts from other radio stations, and it had not been asked to do so.

At present Radio RSA broadcasts for 23 hours a day from four 250-kilowatt shortwave transmitters. Twenty hours of these transmissions are directed at Africa. The areas covered by the broadcasts include the whole of Africa, the Middle East, Western Europe and the United States and Canada.

CSO: 5500

SOUTH AFRICA

COMMITTEE SEEKS TO BROADEN COMPUTER APPLICATION

Johannesburg THE STAR in English 9 Jan 78 p 17

[Text] The McCarthy Group has formed a steering committee to broaden computer application by management.

Under the chairmanship of financial director Dudley Saville, the committee is drawn from country-wide membership of senior management of the divisions which have computer applications.

It will be advised initially by Miss Virginia Marting, senior computer consultant at the Anglo American Corporation.

"While computer technology is a specialised area, the application of computers to management and administrative functions is not," says Dudley Saville, "and it is important that we create the liaison to achieve optimum understanding and communication between the specialists and the users."

CSO: 5500

UGANDA

BRIEFS

SATELLITE PLANS--President Amin has reiterated his intention to develop all parts of Uganda at an equal pace. He was speaking at a news conference with a team of Austrian journalists at Makindye Lodge. He told the journalists that he has already informed the people of Uganda that his intention is to develop Uganda's urban areas, their suburbs and rural areas. He said that a station like the Arua Earth Satellite Station can be built anywhere in Uganda. Field Marshal Amin informed the Austrian journalists that Uganda built her own earth satellite after Kenya had given us a short notice not to use her satellite at Longnot. As a result, he added, Uganda had to build satellite "B" in Arua to give services to the people of Uganda. He said Uganda found it difficult to wait for satellite "A" which would be ready by 1980. He said satellite "B" in Arua will help the people of Uganda in communication system for the time being. Dr Amin disclosed to the journalists that Satellite "A" will be situated 15 miles east of Kampala. [Excerpts] [Kampala VOICE OF UGANDA in English 27 Dec 77 pp 1, 3, 6]

CSO: 5500

USSR

UZBEK OFFICIAL OUTLINES PLAN FOR TASHKENT'S NEW TELEVISION TOWER

Tashkent Domestic Service in Russian 0130 GMT 16 Dec 77 LD

[Text] The Uzbek SSR Council of Ministers has confirmed the plan for the construction of a new television tower in Tashkent. Construction will start at the beginning of 1978. We have asked Yuriy Andreyevich (Perebudov), head of the Directorate for Radio Communications, Radio Broadcasting and Television of the Uzbek SSR Ministry of Communication, to comment on this.

[begin recording]

[Perebudov] The construction of a new radio and television broadcasting station in Tashkent has long been the dream of Uzbek communications men and inhabitants of the capital, and this dream is now being realized. Next year it is intended to commence construction on this unique project.

The broadcasting television complex will cover an area of 6 hectares in a picturesque locality near Victory Park. A 350-meter high structure of high quality steel weighing 5,000 tons will be its basis. The new radio and television broadcasting complex will make it possible to broadcast five television programs in black-and-white and color and four radio programs. Four television programs will be in the meter band and one television program will be in the decimeter band which is not yet used in Uzbekistan.

On the television tower there will be, apart from television and radio broadcasting antennas, premises to house apparatus and instruments of the hydrometeorological service and equipment and antennas of the Altay system of ultra short wave mobile radio communication.

At a height of 100 meters, where the supports join, there will be a three-story bloc for services, which can be visited by the Tashkent public and guests of the city. Visitors will be taken to the first of its floors by rapid elevators. On the second floor will be a circular viewing area from which the wonderful panorama of the Uzbek capital will open up before them. The tower will be located on the third floor. Under the tower will be a service block which will house television and radio broadcasting transmitters and premises for (?auxiliary operations).

A number of specialized institutes of the country took part in the design of this unique project. They were given the complicated task of designing this gigantic construction in conditions of high seismicity and on a small area. We think that it will make a considerable contribution to the architectural appearance of the city, and will enhance it. [end reording]

CSO: 5500

USSR

NEW UZBEK RADIO ANNOUNCED

[Editorial report] Tashkent Domestic Service in Russian at 1410 GMT on 30 December carried the following announcement:

"Dear listeners. As of 1 January 1978, a news and music radio station, Mash'al [Uzbek word meaning lamp], similar to the Moscow Mayak radio, begins operating in the republic. Every half-hour this radio station will bring you the very latest news, news of the life of the country and abroad. In the intervals between these news bulletins, music and literary programs will be broadcast.

"The Mash'al radio station will operate from 0900 to 1200 [0300-0600 GMT] and from 1700 to 2000 hours [1100-1400 GMT]. You can listen to it on the following wavelengths: For Tashkent zone on 67970 KHz or VHF 4.41 meters; for Andizhan zone on 66530 KHz or 4.59 meters; for Syrdarya and Dzhizak zones on 72380 KHz or 4.38 meters; for Samarkand zone on 69449 KHz or 4.32 meters and 1538 KHz or 195 meters; and for Bukhara zone on 72080 KHz or 3.16 meters."

CSO: 5500

USSR

EKRAN TELEVISION BROADCAST SYSTEM

Moscow ZNAMENOSETS in Russian No 12, 1977 pp 22-23

[Article by Lt. Col. Engr. L. Borodin]

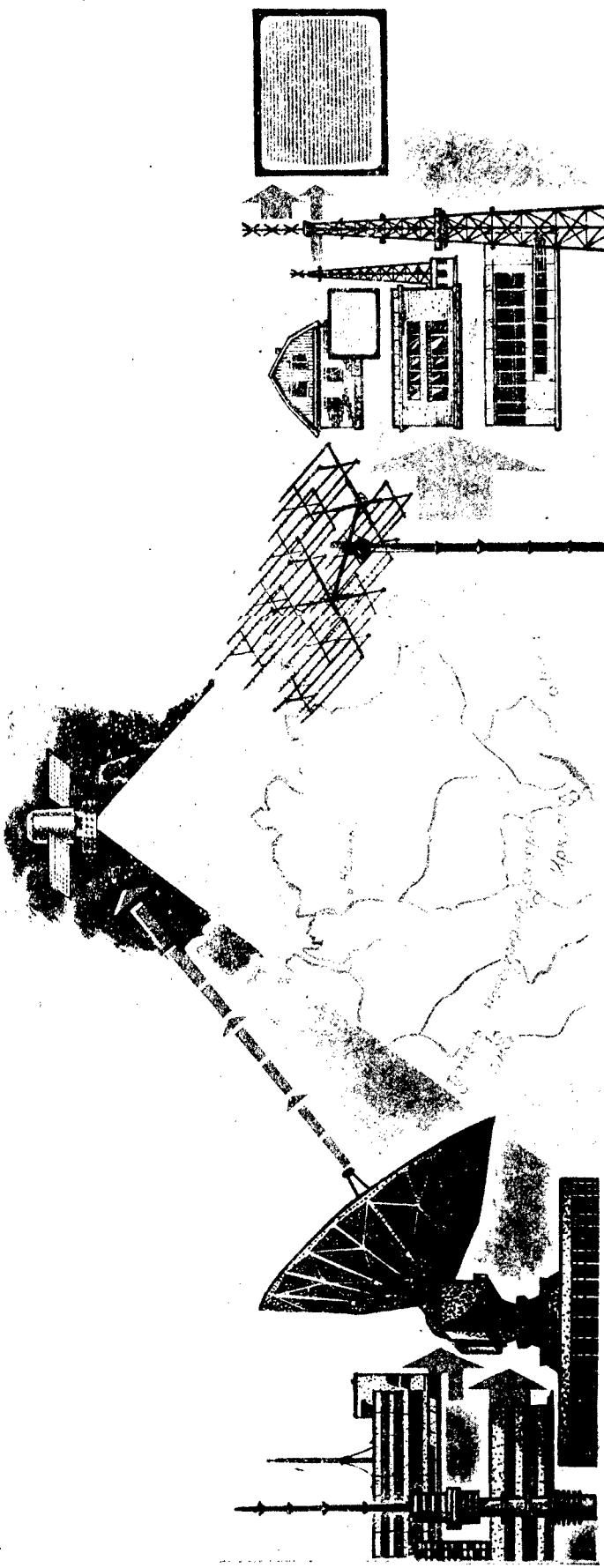
[Text] A new television broadcast satellite, the "Ekran", with on-board repeater equipment which provides for the transmission of black-and-white or color central television programs to the network of community antenna receivers, located at populated points in Siberia and the Far North, was launched in the Soviet Union on October 26th, 1976.

From a TASS report

Artificial satellites of the earth are the least expensive method of television transmission to large areas and over long distances. For our country, though, which occupies a territory of 22 million square kilometers, television broadcasting via satellites is especially advantageous, and considerable attention is being devoted to its development. The practically unlimited possibilities of extending the range of television transmissions were opened up the moment the "Molniya-1" satellite repeater was created in 1965.

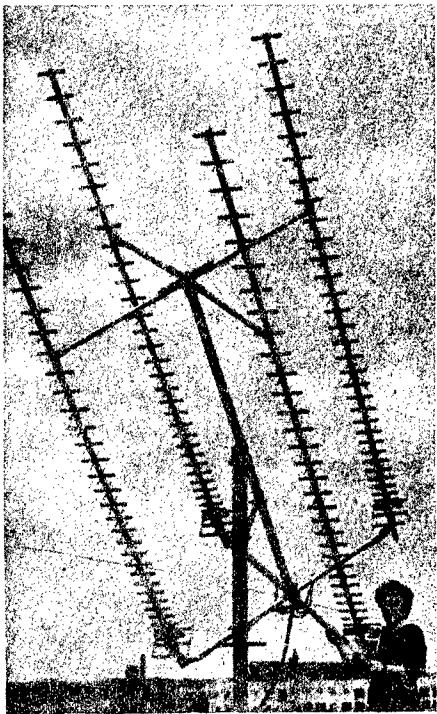
With the placement of the "Molniya" satellite in orbit, the network of "Orbita" receiving stations began to be rapidly developed and refined. And as early as the eve of the 50th anniversary of the October revolution, central television broadcast programs were seen for the first time by inhabitants of the remote regions of our country: Siberia, the Far North, the Far East and Central Asia. At the present time, the network of "Orbita" receiving stations numbers about 80, and services tens of millions of television viewers.*

However, it is necessary to note that the construction of "Orbita" ground stations is rather expensive. For each stations, a special building must be provided, in which the receiving and electrical power equipment, the video and audio signal separation equipment, as well as the auxiliary, service communications and monitoring equipment are housed. A parabolic antenna with a dish diameter of 12 meters, which is mechanically rotated, must be mounted on the roof of the building. For this reason, the construction of the "Orbita" receiving stations is not economically advantageous for small settlements located in remote, difficultly accessible regions.



Drawing by M. Ulupov.

Key: 1. Noril'sk; 5. Krasnoyarsk;
2. Tyumen'; 6. Irkutsk;
3. Omsk; 7. Yakutsk;
4. Novosibirsk; 8. Chita.



Community receiving unit antenna

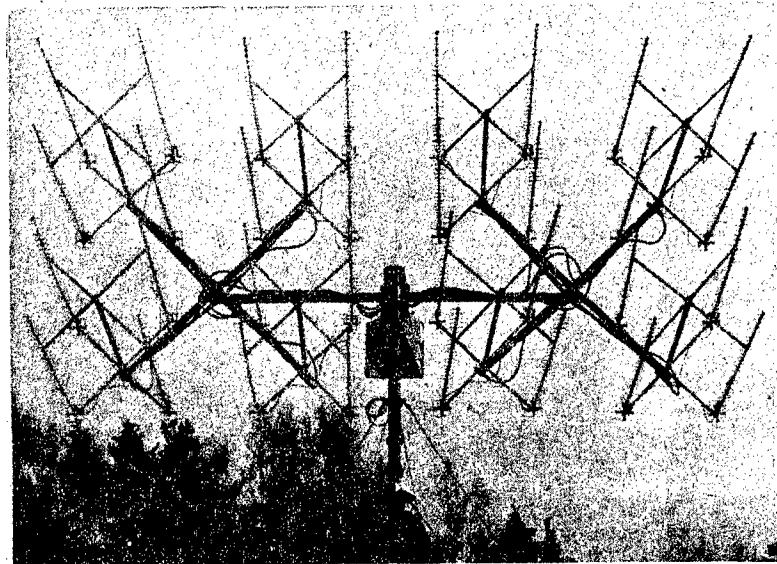
Facing Soviet scientists was the task of creating such a space communications system that television programs could be beamed to simple and inexpensive receiving stations installed at small populated points. And then in October of last year, the "Ekran" geostationary satellite repeater was launched with a multistage rocket vehicle. Traveling in a circular orbit at an altitude of 36,000 kilometers in the plane of the equator at an angular velocity equal to the rotational speed of the earth, this satellite is permanently located in a fixed position with respect to a ground observer. In other words, a geostationary satellite can be compared to a stationary repeater, installed at a high altitude. This makes it possible for ground stations to have fixed antennas, which are permanently directed to the same point, and the necessity of having automatic and manual antenna tracking systems is eliminated. In this case, one satellite is sufficient to provide for around-the-clock communications.

The area of the service zone of the "Ekran" system amounts to about nine million square kilometers. The refined repeater equipment installed in the satellite provides for the transmission of color or black-and-white central television programs to the network of community antenna receiving devices, located at populated points in the Transurals, Central Siberia and the Far North.

Included in the complement of the "Ekran" system is the ground, program feed transmitting station, the artificial earth satellite inserted in a geostationary orbit, and the network of receiving stations located in the service zone of the system.

The ground transmitting equipment of the system is located in the Moscow area. The video and audio signals are fed to the transmitter via cable lines. After combining, and the conversion to intermediate frequency FM signals, they are shifted to the SHF band (6,000 MHz), amplified up to 5 KW and radiated by the antenna in the direction of the satellite.

The "Ekran" television broadcast satellite has a three-axis stabilization and orientation system, which maintains it in a set position. This is quite important, since the highly directional on-board transmitting antenna requires precise, constant orientation towards the earth, while the solar battery panels, the power source for the satellite, should be strictly point towards the sun. The repeater is operated by individual instructions from earth, while the functioning of its most important assemblies is monitored by telemetry transducers installed in the satellite.



The professional receiving unit antenna

The ground transmitter received by the repeater is amplified and first converted to a signal at the 70 MHz intermediate frequency, and then to an output transmit signal in the decimenter wavelength band (702 - 726 MHz). After being amplified up to a level of several hundred watts, it is fed to the feeder and antenna assembly and radiated to the earth. The transmit antenna is made in the form of a phased array with an area of 12 square meters. This makes it possible to obtain a high gain and thereby significantly increase the power over the longest link, from the satellite to the earth.

The ground receiving stations of the "Ekran" system are broken down into professional and community types. The professional ones are intended for the reception of television signals from the satellite and their transmission with a high degree of quality to local television centers. No capital construction is required for their installation; they are freely located in the territory of a municipal or rural communications center.

The professional receiving installation consists of a refined director type antenna, as well as bays of receiving and instrumentation equipment. The signal from the "Ekran" satellite is received by a high gain (30 dB) antenna and is fed to the receiving equipment channel. The main amplification of the signal is accomplished in the intermediate frequency channel, after which its parasitic amplitude modulation is suppressed by the limiter, and fed to the discriminator is a signal which is only frequency modulated. The television signal is split into video and audio in the frequency discriminator, and these signals are then fed via junction lines from the output stage to the local television center, and from there to the individual television sets.

The community receiving installation is intended for feeding a television signal to a low power television repeater or into an apartment distribution network at the frequency of one of the decimeter channels. It takes the form of a simplified professional receiver with a smaller antenna. There are no back-up blocks or measurement equipment in it.

The difference between the signal passage in the community installation as compared to the professional one is the fact that here, there is additional conversion of the frequency modulated video signal to an amplitude modulated video signal, i.e. to the type of signal which is fed directly to a television receiver. Because of the simplified antenna and the simpler receiving equipment, the quality of the signal received from the community receiving installation is somewhat worse.

The "Ekran" system has a number of substantial advantages over the "Orbita" system. There, the "Molniya" type satellite repeater is continually moving with respect to the earth, and it is necessary to continually compute its coordinates, and to have the ground antennas track it. Traveling in an elliptical orbit, it has a limited period of visibility above the territory of the Soviet Union (about eight hours), so that it is necessary to have no less than three satellites in orbit for around-the-clock operation. And this significantly increases material outlays.

The signal radiated by the "Ekran" repeater is almost ten times more powerful than the signal from the "Molniya" satellite. This has made it possible to have simpler ground antennas and less complex receiving equipment.

Expansion of the "Ekran" system is planned in the 10th Five-Year Plan. The network of receiving facilities will be expanded. The introduction of this system will make it possible for millions of people living in the cities and settlements of the Transurals and Central Siberia to watch central television programming.

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CSO: 8144/0541

USSR

BRIEFS

TYGDA-SKOVORODINO RADIO RELAY LINE--A state commission has accepted for operation the Tygda-Skovorodino radio relay line, making it possible for residents of Magdagachinskiy and Skovorodinskiy rayons to view color and black-and-white television programs from Moscow and Blagoveshevs. [Blagoveshchensk Domestic Service in Russian 1030 GMT 13 Jan 78 OW]

CHECHENO-INGUSHETIA TV--Gorznyy--A new television retransmitter has begun operating beyond the Terskiy ridge. It has insured stable reception of Moscow television transmissions in the populated points of this extensive zone of Checheno-Ingushetia. Residents of kolkhoz villages situated in the Terek floodlands will be able to watch the New Year television program. Some 14 rural television retransmitters are now operating in the rayons of the mountainous district. [Text] [Moscow SOVETSKAYA ROSSIYA in Russian 1 Jan 78 p 4 LD]

AZERBAYDZHAN TV RELAY STATION--Ali-Bayramly, Azerbaydzhani SSR--A general modernization of a radio relay station situated on one of the mountain peaks in Azerbaydzhani has begun. It is the first point on a main television linkup between Baku and Astara. It is due to be completed in time for the opening of the Olympic games in Moscow. The point is that this television bridge, which is being built toward the USSR's southern borders, will make it possible for Iranian residents to watch direct broadcasts from the 1980 Olympics. [Text] [Moscow IZVESTIYA in Russian 8 Jan 78 morning edition p 2 LD]

RECEPTION IN PSKOVSKAYA OBLAST--Pskov--Channel 4 of Central Television has reached the television screens in the settlement of Usmyn in Kuninskiy Rayon. This has become possible after specialists of the oblast radio and television broadcasting center installed a radio relay station. [Text] [Moscow TRUD in Russian 8 Jan 78 p 1 LD]

TV RELAY STATION--A new television relay station was commissioned recently at Stara Basta in the Rimavska Sobota District in Slovakia. It will improve reception of the first television program in that area. [Bratislava SMENA in Slovak 3 Jan 78 p 5 AU]

PRIMORSKIY KRAY TV--Residents of Terneyskiy Rayon in northern Primorskiy Kray began viewing television programs on the eve of the new year. Now, workers building the kray's largest plastun timber industry complex, hunters, and workers of the state reservation, as well as all the population of the rayon center can view television transmissions. [Vladivostok Domestic Service in Russian 0935 GMT 30 Dec 77 OW]

CSO: 5500

NORWAY

KIEV TRANSMITTER AGAIN ANGERS COMMUNICATIONS WORKERS

Oslo AFTENPOSTEN in Norwegian 8 Dec 77 pp 1, 22

Article: "Norway Asked to Participate in Boycott of Soviet Ships"

Text The constant disturbances by the Kiev transmitter have now caused workers in short wave stations so much annoyance and psychic burden that drastic action to bring an end to the untenable situation are being talked about. The personnel at the West German station Norddeich Radio has taken the initiative to a suggest joint Western European action. A boycott of Soviet ships is a thought mentioned in a letter to stations in 10 countries.

"We must first thoroughly consider the consequences of so drastic a reaction as a boycott of ships from the Soviet Union," Odd-Kare Kvalheim, of the National Federation of Telegraphers, tells AFTENPOSTEN. "Whom will such an action really hit? We must also consider the legality of such a gambit. Another question is what will happen if such a boycott is carried out and the Soviet Union responds with a boycott of our own ships."

This is in many ways an appalling situation. Thus far, the authorities have attempted as long as possible to appeal to common sense. But today we intend to consider the communication from the West German station," says Kvalheim.

Personnel of Rogaland Radio have also toyed with the idea of a boycott. Shop steward Arne Nilsen informs AFTENPOSTEN that he has received the letter from the West German officials. The letter gives no indication of when an eventual boycott would be started or how long it would last. He assumes that the initiative is at first an attempt to measure the mood in favor of such a drastic protest action. The Kiev transmitter has been a continual matter of discussion among the staff at Rogaland Radio. The workers are upset and tired because of these troubles. A reaction on a more international basis will likely have stronger effect than if a country protests alone he states.

The Soviet Union has received from Norway in all eight protests against the disturbance from the Kiev transmitter. The latest was sent from the tele-communication authorities only a few days ago.

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NORWAY

BRIEFS

GOVERNMENT PROTEST NOTE--On Thursday the Foreign Ministry once more urged the Soviet authorities to do something to put a stop to the disturbance caused by the Kiev transmitter, AFTENPOSTEN has learned. Ambassador Makarov of the Soviet embassy in Oslo on Thursday had a conversation with Office Chief Tore Bogh of the trade section of the Ministry of Foreign Affairs. Bogh noted that the foreign ministry had taken up the matter a year ago, but that the interference continued. He pointed out that the disturbance severely affected the work of Rogaland Radio, and mentioned that the station now threatens to boycott Soviet ships. Ambassador Makarov promised to bring the matter to the attention of Soviet authorities. /Text/
/Oslo AFTENPOSTEN in Norwegian 12 Dec 77 p 4/ 11256

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